

Reference  
No.: 1917-069

LEVEL ONE

SURVEILLANCE

AND INSPECTION REPORT

*Carried Out  
By*



PREPARED FOR: -

DRAPERS CIVIL CONTRACTING PTY LTD



## Table of Contents

1)	Introduction & Scope.....	2
2)	Site Preparation.....	2
3)	Fill Material.....	2
4)	Fill Construction Procedure.....	3
5)	Compaction Control Testing.....	3
6)	Testing Frequency.....	3
7)	Statement of Compliance.....	4
8)	Limitations of this Report.....	4

## Appendices

Appendix A Construction Drawings

Appendix B Daily Field Compaction Summary Results



Client Name: Drapers Civil Contracting Pty Ltd

Project Name: The Quay 2 Estate Stage 13

Date: 20<sup>th</sup> of December 2018

Author: Mr. Sam Loza

Reference No.: 1917-069

Revision: 01

Project Manager: Mr. Matthew Jackman

### **1. Introduction & Scope**

At the request of Drapers Civil Contracting Pty Ltd, Geotechnical Laboratories has carried out inspection and testing of the above-mentioned site on the 11<sup>th</sup> of August 2017 and the 14<sup>th</sup> of December 2018 where a residential development is being constructed. Inspection and testing of stripping, material quality and compaction control tests were carried out to comply with the requirements of AS 3798 Appendix B, Level 1.

The following documentation was submitted to Geotechnical Laboratories by Drapers Civil Contracting Pty Ltd and was used to determine compliance of earthworks in conjunction with the requirements of AS 3798 – 2007 (See Appendix A).

(1). Reeds Consulting Standard Faceplan Layout Reference No. 21437E/13.

General site works involved the placement of fill, using on-site derived clay, to bring the fill region to the required finished levels as indicated on the faceplan drawings.

### **2. Site Preparation**

Site inspections were undertaken on the 11<sup>th</sup> of August 2017 confirming that selected areas to be filled were completely stripped of topsoil prior to filling. The brown silty topsoils had been stockpiled around the site for later removal off-site.

Initial proof roll inspections were performed and subsequently throughout the project duration to ensure no significant soft areas were present prior to filling.

### **3. Fill Material**

It is understood that the fill material used was sourced from on-site excavations, mainly service trenches and road boxing.



The fill material is best described as a CLAY, brown, grey-brown, medium plasticity, slightly silty, slightly moist to moist with basalt gravel and cobbles.

The fill material is consistent with the naturally occurring soils for this region.

Source material was deemed a **Suitable Material** in accordance with guidelines set out in AS 3798 - 2007 Section 4.4.

#### **4. Fill Construction Procedure**

The following plant (but not always limited to) were engaged in the fill placement process:

- Dump trucks and / or highway trucks
- A watercart
- A sheepsfoot compactor (815)

The sheepsfoot compactor placed material in horizontal loose layers of approximately 250mm-300mm. The sheepsfoot compactor also performed compaction of the clay fill operating in a criss-cross pattern.

The moisture condition of the fill was closely monitored and moisture conditioning procedures were applied to bring the material closer to its Standard Optimum Moisture Content (AS 1289 5.7.1).

#### **5. Compaction Control Testing**

Compaction control testing was performed on-site using a Nuclear Densometer in accordance with AS 1289 5.8.1. Laboratory reference densities were determined from material sampled at each test site location using the Hilf Rapid Compaction Method in accordance with AS 1289 5.7.1.

A total of thirty-one compaction tests were performed on the fill construction. Results are presented in Appendix B of this report.

#### **6. Testing Frequency**

Testing frequencies were in accordance with **AS 3798 - 2007 Table 8.1** for **Large Scale Operations**.

Acceptance of fill layers for compaction was based on the requirements of **AS 3798 - 2007 Table 5.1 Item 1. Residential**. As a result, the compliance criteria adopted by Geotechnical Laboratories was a hilf density ratio not less than 95 percent of the maximum hilf density value as determined by the Standard Hilf Rapid Compaction Method in accordance with AS 1289 5.7.1.



Test results indicate that the above-mentioned requirements have been successfully achieved.

No moisture criteria was specified.

### **7. Statement of Compliance**

So far as can be determined, Drapers Civil Contracting Pty Ltd has satisfactorily complied with the compaction and construction processes required for the structural filling of this site. As such, structural filling placed on this site by Drapers Civil Contracting Pty Ltd from the 11<sup>th</sup> of August 2017 to the 14<sup>th</sup> of December 2018 can be categorised as CONTROLLED FILL in accordance with AS 2870-2011.

### **8. Limitations and Liability of this Report**

This report has been produced for and remains the property of Drapers Civil Contracting Pty Ltd.

The release of this report to a third party will only occur if Geotechnical Laboratories Pty Ltd has received, in writing, the authority to do so by our client.

Geotechnical Laboratories Pty Ltd will not engage in any third-party communication regarding this report.

Where information has been supplied by the client or third party, the assumption is made that this is correct. Geotechnical Laboratories Pty Ltd will not be held responsible for any inaccuracies supplied.

Test results and controlled fill compliance relates only to fill placed by Drapers Civil Contracting Pty Ltd and for earthworks completed at the time of inspection and testing. Any previous or subsequent earthworks will require a separate evaluation.

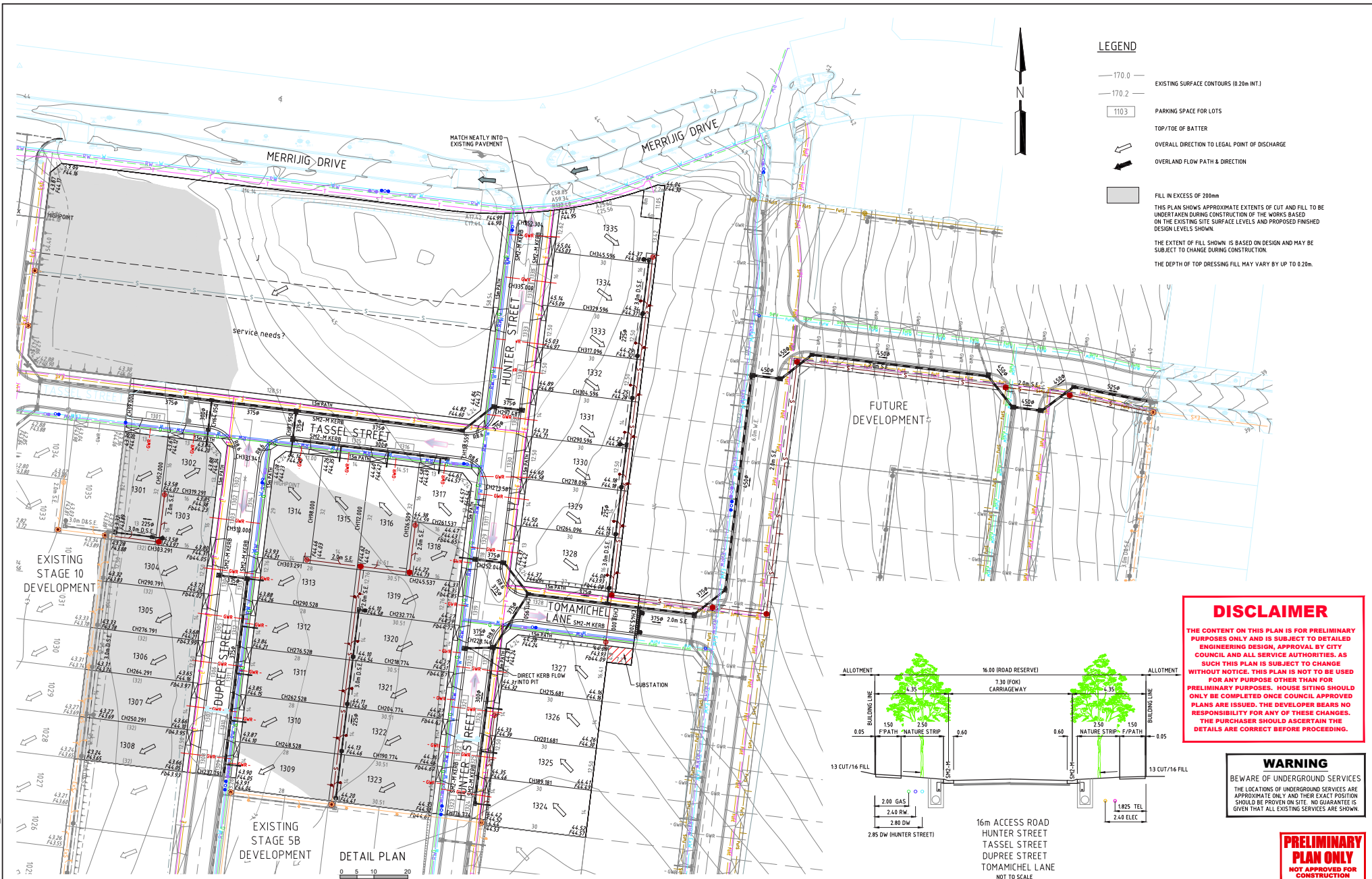
For & on behalf of  
Geotechnical Laboratories Pty Ltd.

Sam Loza  
Laboratory Manager.



LEVEL ONE  
SURVEILLANCE  
AND INSPECTION REPORT

APPENDIX A



- LEGEND**
- 170.0 — EXISTING SURFACE CONTOURS (0.20m INT.)
  - 170.2 — EXISTING SURFACE CONTOURS (0.20m INT.)
  - 1103 PARKING SPACE FOR LOTS
  - TOP / TOE OF BATTER
  - OVERALL DIRECTION TO LEGAL POINT OF DISCHARGE
  - OVERLAND FLOW PATH & DIRECTION
  - FILL IN EXCESS OF 200mm
- THIS PLAN SHOWS APPROXIMATE EXTENTS OF CUT AND FILL TO BE UNDERTAKEN DURING CONSTRUCTION OF THE WORKS BASED ON THE EXISTING SITE SURFACE LEVELS AND PROPOSED FINISHED DESIGN LEVELS SHOWN.
- THE EXTENT OF FILL SHOWN IS BASED ON DESIGN AND MAY BE SUBJECT TO CHANGE DURING CONSTRUCTION.
- THE DEPTH OF TOP DRESSING FILL MAY VARY BY UP TO 0.20m.



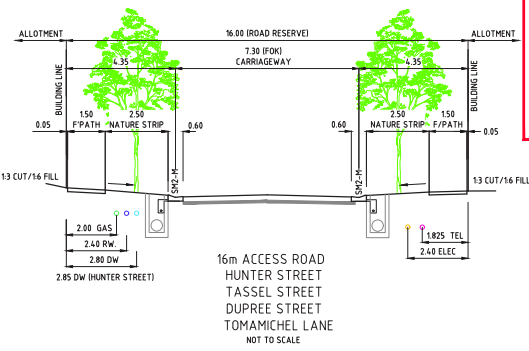
**DISCLAIMER**

THE CONTENT ON THIS PLAN IS FOR PRELIMINARY PURPOSES ONLY AND IS SUBJECT TO DETAILED ENGINEERING DESIGN, APPROVAL BY CITY COUNCIL AND ALL SERVICE AUTHORITIES. AS SUCH THIS PLAN IS SUBJECT TO CHANGE WITHOUT NOTICE. THIS PLAN IS NOT TO BE USED FOR ANY PURPOSE OTHER THAN FOR PRELIMINARY PURPOSES. HOUSE SITING SHOULD ONLY BE COMPLETED ONCE COUNCIL APPROVED PLANS ARE ISSUED. THE DEVELOPER BEARS NO RESPONSIBILITY FOR ANY OF THESE CHANGES. THE PURCHASER SHOULD ASCERTAIN THE DETAILS ARE CORRECT BEFORE PROCEEDING.

**WARNING**

BEWARE OF UNDERGROUND SERVICES  
 THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE DETERMINED ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

**PRELIMINARY PLAN ONLY**  
 NOT APPROVED FOR CONSTRUCTION



**DETAIL PLAN**  
 Scale 1:500 @ A1

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VERSION	REMARKS	JZ
B	OUTFALL SEWER ALIGNMENT AMENDED & SUBSTATION ADDED	14.07.17
A	PRELIMINARY ISSUE	xx.xx.xx

DRAWN BY	D.KONSTANDIS	DESIGNED BY	J.ZHOU
CHECKED BY	X.XXXXX	AUTHORISED BY	S.RAVIDA

**REEDS CONSULTING**

LAND SURVEYING  
 CIVIL ENGINEERING  
 PLANNING  
 DEVELOPMENT CONSULTING

100, 4th Floor, 100, Macquarie Street, Sydney, NSW 2000

SURF COAST SHIRE  
 THE QUAY 2 ESTATE  
 STAGE 13  
 FUNCTIONAL LAYOUT PLAN - 1  
 & STORMWATER MANAGEMENT STRATEGY

DRAWING No.	VERSION
G2	B
REFERENCE	
21437E/13	
SHEET	2 OF 3



LEVEL ONE  
SURVEILLANCE  
AND INSPECTION REPORT

APPENDIX B





**GEOTECHNICAL LABORATORIES**  
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 PO Box 2693 Gladstone Park VIC 3043  
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**DAILY SUMMARY - FIELD DENSITY TESTS**



REPORT NO.: # 1916/164

LOCATION: DRAPERS - The Quay 2 Estate Stage 13

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m <sup>3</sup> )	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m <sup>3</sup> )	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)	
11/08/17	1	<i>Refer to #1916/165 for approx. test site locations.</i>	1.96	27.0	100.5	1.95	25.0	175	2.0 Wetter	108.0	0	0	0	
11/08/17	2		1.83	33.5	95.0	1.93	30.0	175	3.5 Wetter	111.5	0	0	0	
11/08/17	3		1.91	27.5	96.5	1.97	24.5	175	3.0 Wetter	112.5	0	0	0	
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-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Onsite Clay Fill Compaction specimens sampled after compaction.  
 Test sites located - Geolab Procedure 4, Part 4.4. Start Time: 1.30pm Finish Time:

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Soil Layer thickness: 200mm Moisture Content: AS 1289 2.1.1  
 Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1 Compaction Test: AS 1289 5.7.1  
 Field Density, Nuclear Gauge: AS 1289 5.8.1 Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National standards. This document may not be reproduced except in full.  
 Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)   
SAM LOZA  
(Approved Signatory)  
 ✖ Issue Date: 17/8/2017  
 ❖   
NATA Accredited Laboratory Number 14561



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CLIENT: DRAPERS	DATE: 11/8/17	JOB No.: 1916/165
	LOCATION: The Quay 3 Estate Stage 13	OPERATOR: NM
Sketch indicating approx. compaction test locations	SCALE: NTS	



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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1916/218

LOCATION: DRAPERS - The Quay 2 Estate Stage 13

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m <sup>3</sup> )	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m <sup>3</sup> )	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
20/03/18	1	<i>Refer to #1916/219 for approx. test site locations.</i>	1.98	17.0	100.0	1.98	18.5	175	2.0 Drier	90.0	0	0	0
20/03/18	2		2.01	14.0	101.0	1.98	16.0	175	2.0 Drier	87.0	0	0	0
20/03/18	3		1.91	16.0	99.0	1.93	19.0	175	3.0 Drier	84.0	0	0	0
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-	-		-	-	-	-	-	-	-	-	-	-	-
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-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Onsite Clayey Fill

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 12.30pm Finish Time: 12.40pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

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Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1



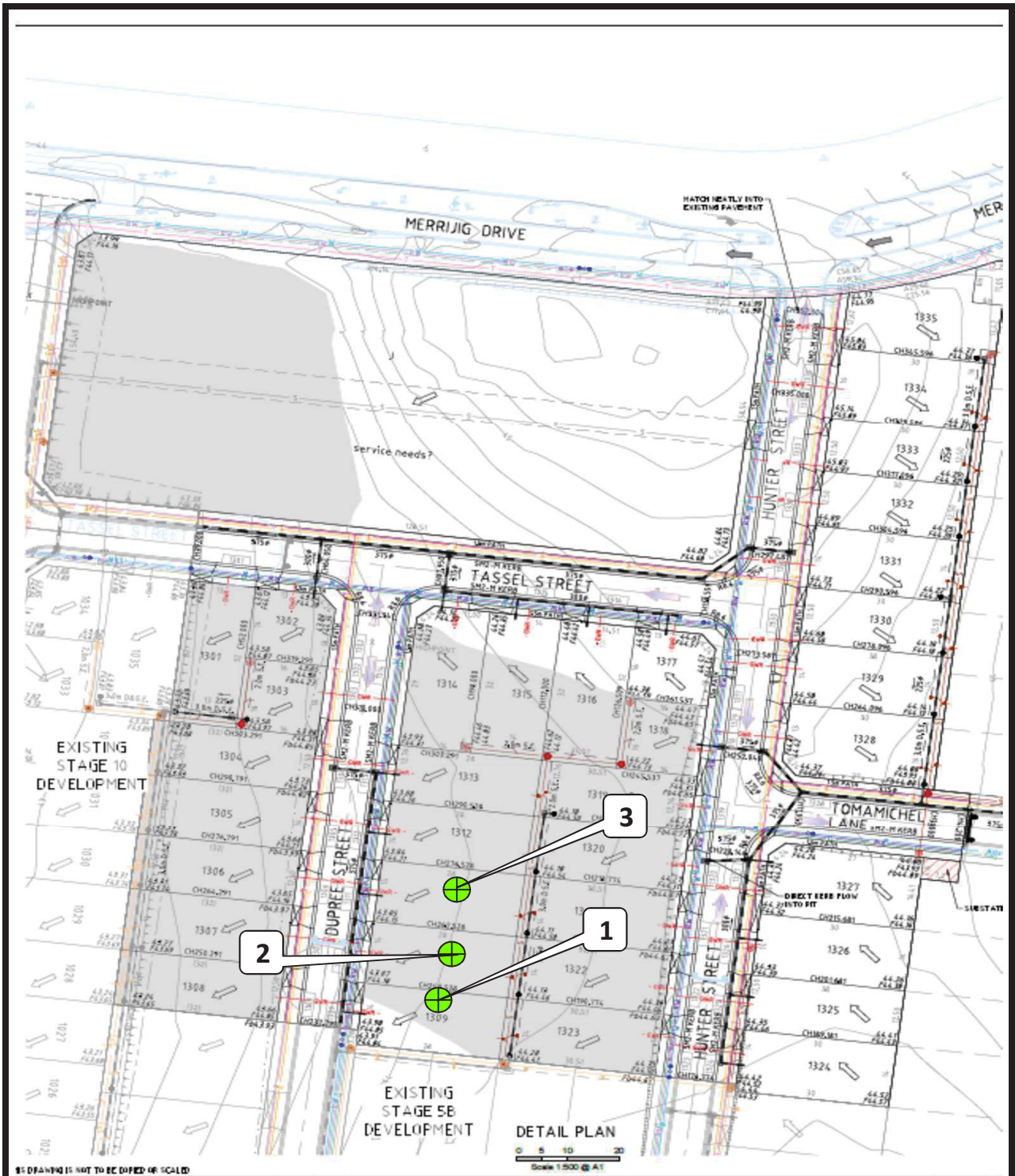
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SAM LOZA

(Approved Signatory)

Issue Date: 26/3/2018



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<b>CLIENT:</b> DRAPERS  <b>LOCATION:</b> The Quay 2 Estate Stage 13  Sketch indicating compaction test locations	<b>DATE:</b> 20/3/18	<b>JOB No.:</b> 1916/219
	<b>OPERATOR:</b> JC	<b>CHECKED:</b> EG
	<b>SCALE:</b> NTS	<b>FIGURE No.:</b> -





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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1916/220

LOCATION: DRAPERS - The Quay 2 Estate Stage 13

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m <sup>3</sup> )	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m <sup>3</sup> )	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
21/03/18	1	<i>Refer to #1916/221 for approx. test site locations.</i>	1.87	15.0	96.0	1.95	18.5	175	3.0 Drier	82.5	0	0	200
21/03/18	2		1.95	17.5	100.0	1.95	20.0	175	2.5 Drier	88.0	0	0	200
21/03/18	3		1.91	16.0	96.0	1.99	17.5	175	1.5 Drier	92.0	0	0	200
-	-		-	-	-	-	-	-	-	-	-	-	-
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NOTES: Onsite Clayey Fill

Test sites located - Geolab Procedure 4, Part 4.3.

Compaction specimens sampled after compaction.

Start Time: 1.00pm Finish Time: 1.20pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

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Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1



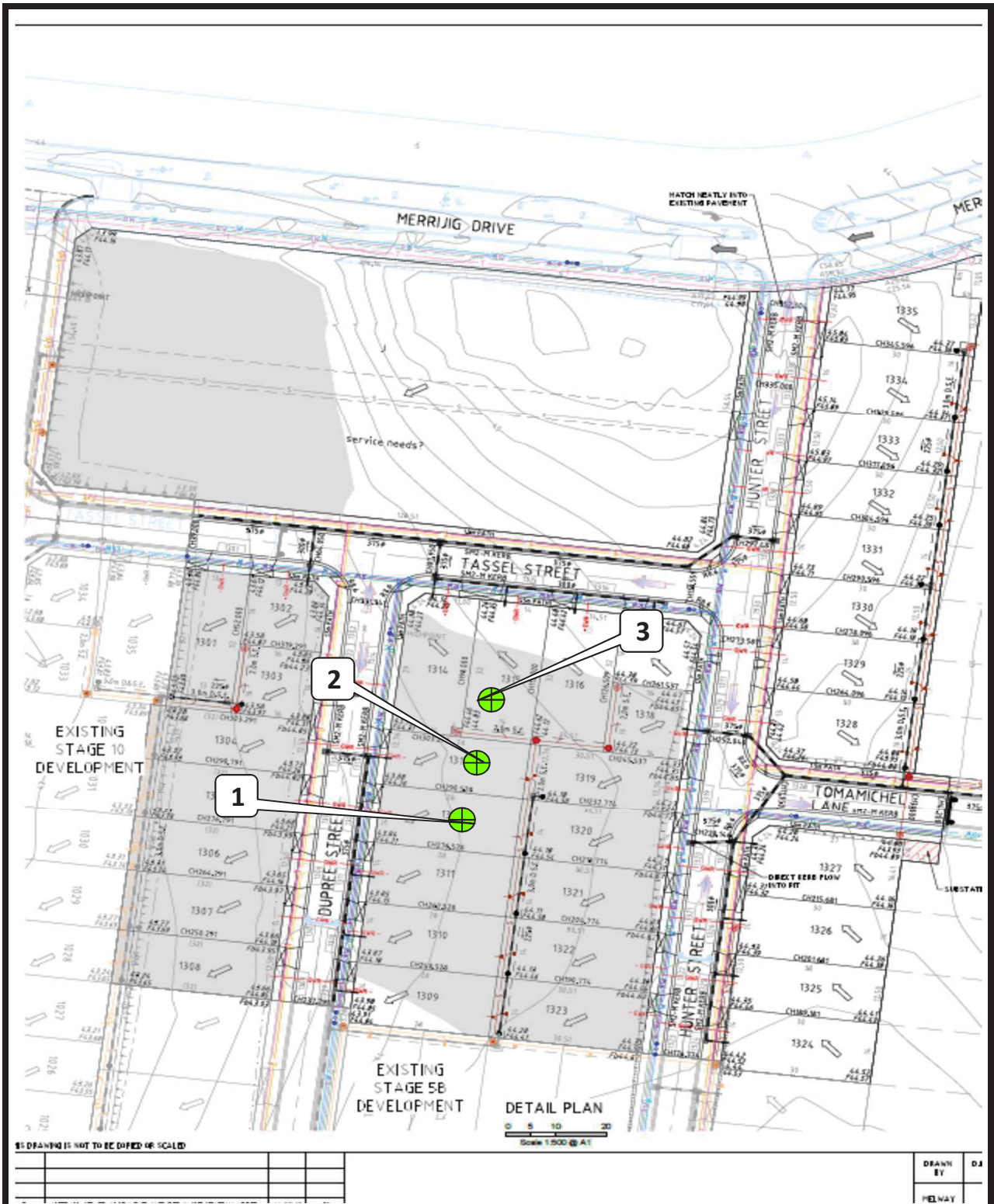
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**CLIENT: DRAPERS**

**LOCATION: The Quay 2 Estate Stage 13**

**Sketch indicating compaction test locations**

**DATE: 21/3/18**

**OPERATOR: JC**

**SCALE: NTS**

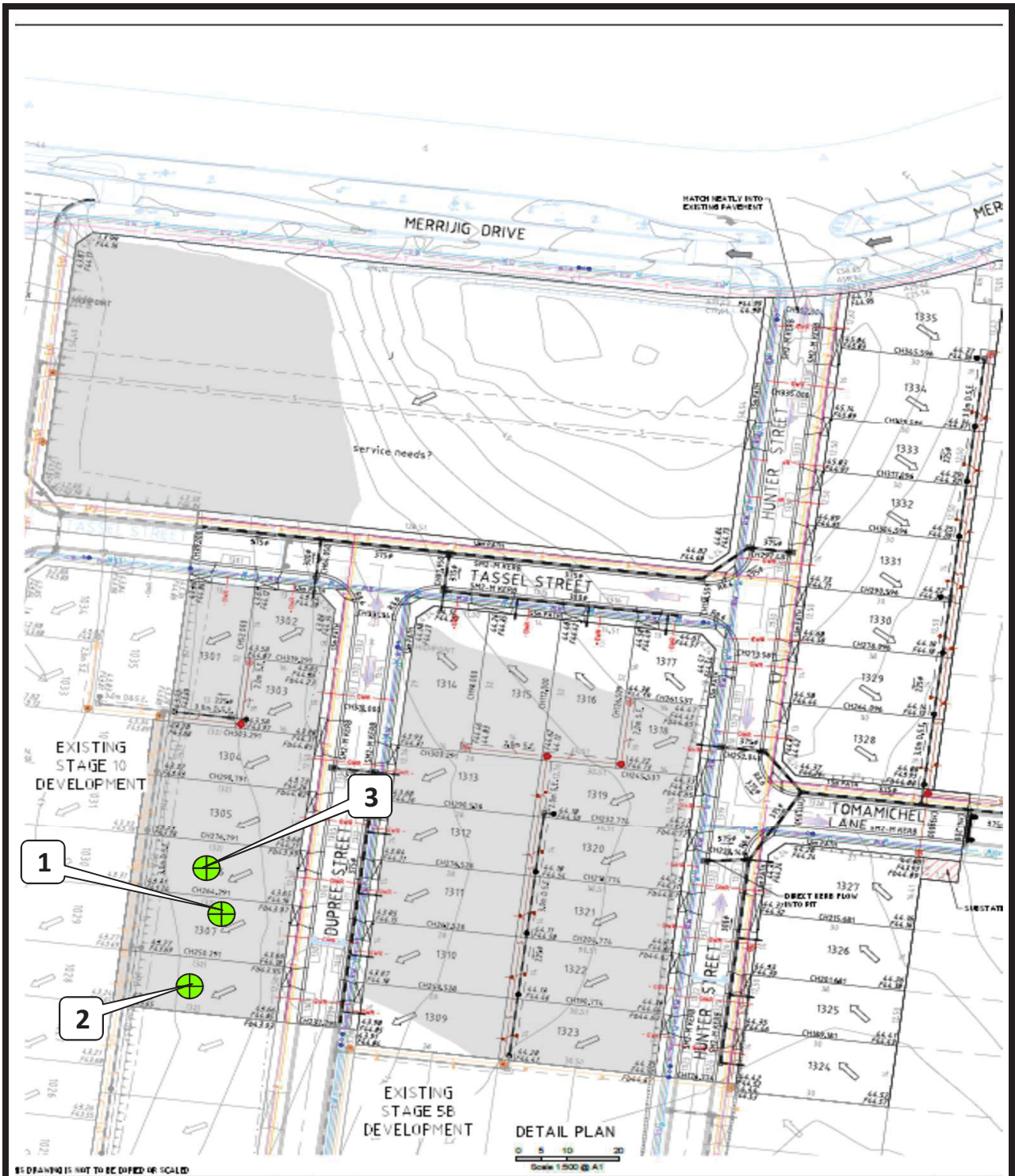
**JOB No.: 1916/221**

**CHECKED: EG**

**FIGURE No: -**











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<b>CLIENT: DRAPERS</b>  <b>LOCATION: The Quay 2 Estate Stage 13</b>  <b>Sketch indicating compaction test locations</b>	<b>DATE: 22/3/18</b>	<b>JOB No.: 1916/223</b>
	<b>OPERATOR: JC</b>	<b>CHECKED: EG</b>
	<b>SCALE: NTS</b>	<b>FIGURE No: -</b>





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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1916/224

LOCATION: DRAPERS - The Quay 2 Estate Stage 13

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m <sup>3</sup> )	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m <sup>3</sup> )	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
23/03/18	1	<i>Refer to #1916/225 for approx. test site locations.</i>	2.02	16.0	100.0	2.02	17.0	175	0.5 Drier	96.0	0	0	200
23/03/18	2		1.95	17.0	100.0	1.95	20.0	175	3.0 Drier	86.0	0	0	0
23/03/18	3		2.05	19.0	102.5	2.00	21.5	175	2.5 Drier	88.0	0	0	0
23/03/18	4		2.05	17.0	101.5	2.01	18.5	175	1.5 Drier	92.5	0	0	0
23/03/18	5		1.95	18.0	98.5	1.98	20.5	175	2.5 Drier	87.5	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Onsite Clayey Fill

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 11.10am Finish Time: 11.45am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

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Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1



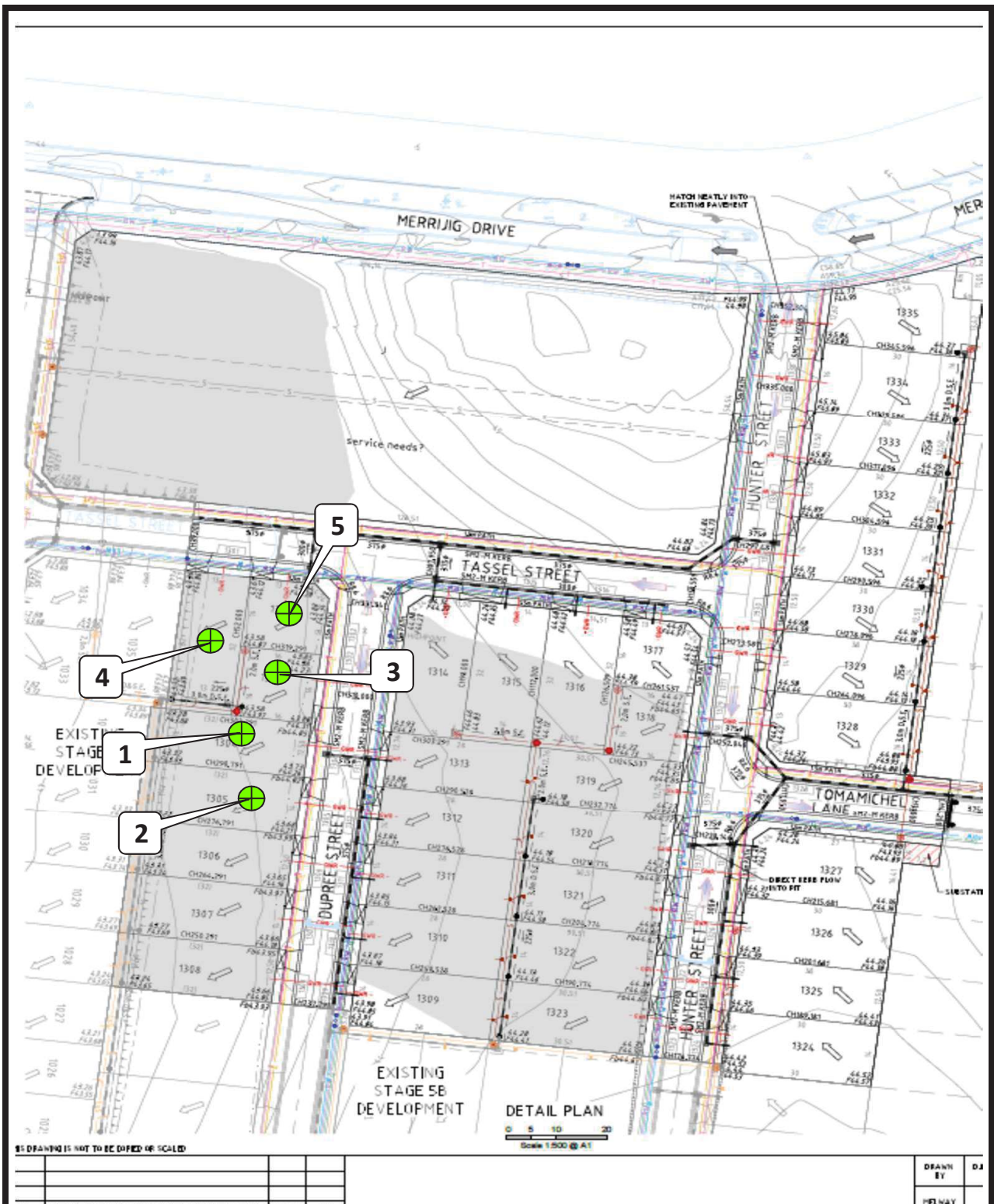
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SAM LOZA

(Approved Signatory)

Issue Date: 28/3/2018



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**CLIENT: DRAPERS**

**LOCATION: The Quay 2 Estate Stage 13**

**Sketch indicating compaction test locations**

**DATE: 23/3/18**

**OPERATOR: JC**

**SCALE: NTS**

**JOB No.: 1916/225**

**CHECKED: EG**

**FIGURE No: -**

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CHECKED BY	PELWAY



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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1916/226

LOCATION: DRAPERS - The Quay 2 Estate Stage 13

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m <sup>3</sup> )	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m <sup>3</sup> )	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)	
26/03/18	1	<i>Refer to #1916/227 for approx. test site locations.</i>	1.92	17.0	98.0	1.96	19.0	175	2.0 Drier	90.0	0	0	0	
26/03/18	2		2.03	21.0	100.0	2.03	21.0	175	0.0 Drier	100.0	0	0	200	
26/03/18	3		1.97	21.0	97.5	2.02	21.0	175	0.0 Drier	100.0	0	0	200	
-	-		-	-	-	-	-	-	-	-	-	-	-	-
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-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Onsite Clayey Fill

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 9.00am Finish Time: 9.30am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

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Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1



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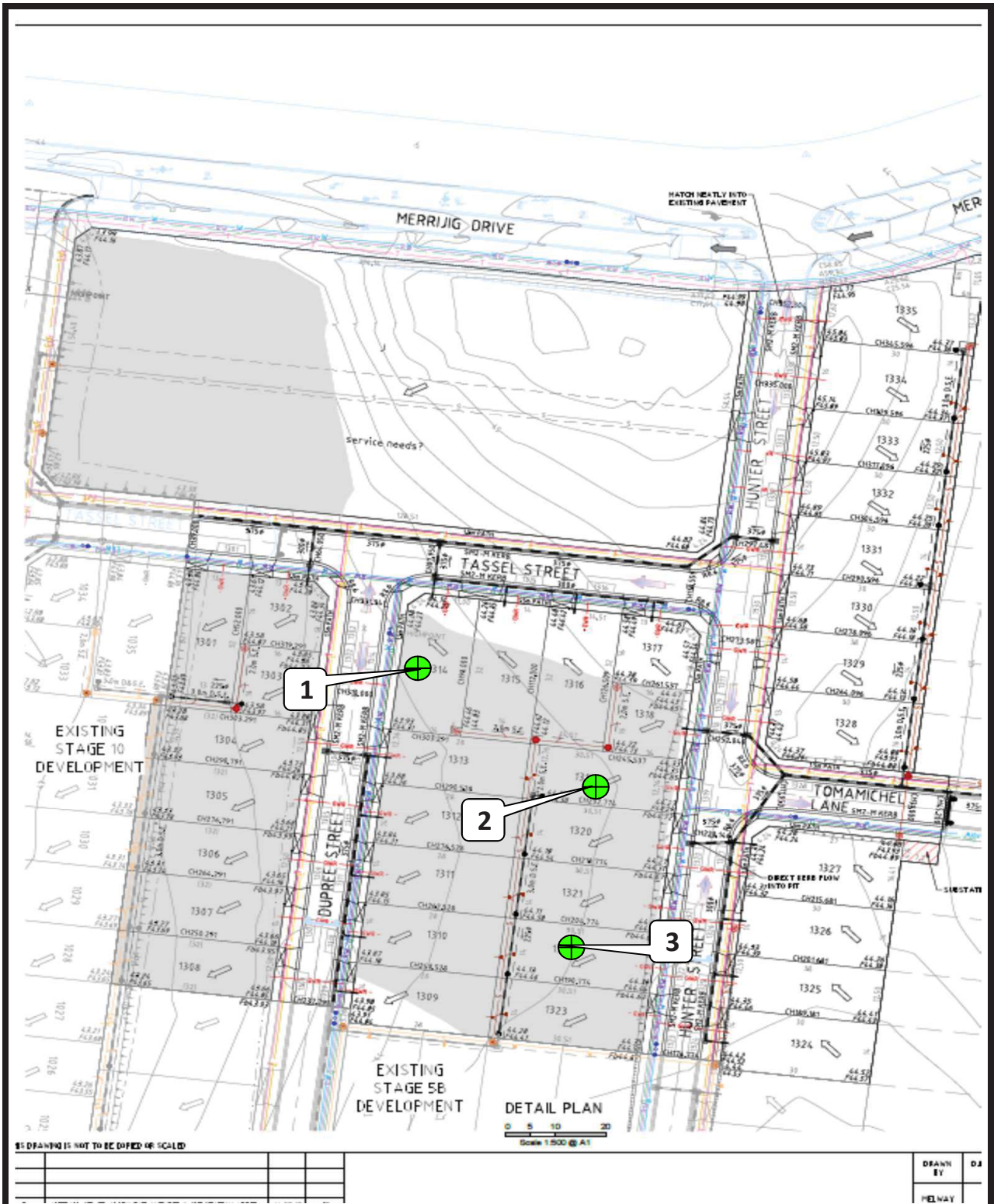
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Issue Date: 29/3/2018





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**CLIENT: DRAPERS**

**DATE: 26/3/18**

**JOB No.: 1916/227**

**LOCATION: The Quay 2 Estate Stage 13**

**OPERATOR: JC**

**CHECKED: EG**

**Sketch indicating compaction test locations**

**SCALE: NTS**

**FIGURE No: -**



**GEOTECHNICAL LABORATORIES**  
 ACN 102 571 077  
 Factory 1/8-10 Catalina Drive, Tullamarine Vic 3043  
 PO Box 2693 Gladstone Park VIC 3043  
 PH: (03) 9335 1225

## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1916/228

LOCATION: DRAPERS - The Quay 2 Estate Stage 13

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m <sup>3</sup> )	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m <sup>3</sup> )	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
28/03/18	1	<i>Refer to #1916/229 for approx. test site locations.</i>	1.96	17.0	98.0	1.99	18.0	175	1.0 Drier	95.0	0	0	0
28/03/18	2		2.01	17.0	102.0	1.98	18.0	175	1.0 Drier	95.0	0	0	0
28/03/18	3		1.96	18.5	98.0	2.00	19.0	175	0.5 Drier	96.5	0	0	0
28/03/18	4		1.94	18.0	101.5	1.91	23.5	175	5.0 Drier	77.5	0	0	0
28/03/18	5		1.95	20.5	102.0	1.91	25.5	175	5.5 Drier	79.5	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Onsite Clayey Fill

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 11.20am Finish Time: 11.50am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✘

❖

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1



Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National standards. This document may not be reproduced except in full.

NATA Accredited Laboratory Number 14561

SAM LOZA

(Approved Signatory)

Issue Date: 5/4/2018



**GEOTECHNICAL LABORATORIES**

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 PH: (03) 9335 1225 Fax: (03) 9335 1775

**CLIENT: DRAPERS**

**LOCATION: The Quay 2 Estate Stage 13**

**Sketch indicating compaction test locations**

**DATE: 28/3/18**

**OPERATOR: JC**

**SCALE: NTS**

**JOB No.: 1916/229**

**CHECKED: EG**

**FIGURE No: -**

DRAWN BY	DJ
CHECKED BY	PELWAY





**GEOTECHNICAL LABORATORIES**  
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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1916/340

LOCATION: DRAPERS - The Quay 2 Estate Stage 13

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m <sup>3</sup> )	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m <sup>3</sup> )	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
14/12/18	1	<i>Refer to #1916/341 for approx. test site locations.</i>	2.13	22.0	105.5	2.01	22.0	175	0.5 Wetter	102.0	0	0	1200
14/12/18	2		2.09	19.5	103.0	2.02	19.0	175	0.0 Wetter	101.0	0	0	700
14/12/18	3		2.04	18.5	99.5	2.05	18.0	175	0.0 Wetter	101.5	0	0	300
14/12/18	4		2.03	21.5	101.0	✱ 2.01	21.0	175	0.5 Wetter	102.5	5	0	1200
14/12/18	5		2.06	16.0	103.0	2.00	16.5	175	0.5 Drier	97.0	0	0	700
14/12/18	6		1.98	19.5	96.0	2.06	19.0	175	0.5 Wetter	102.5	0	0	300

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.3.

Compaction specimens sampled after compaction.

Start Time: 11.00am Finish Time: 12.00pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✱ Indicates APCWD

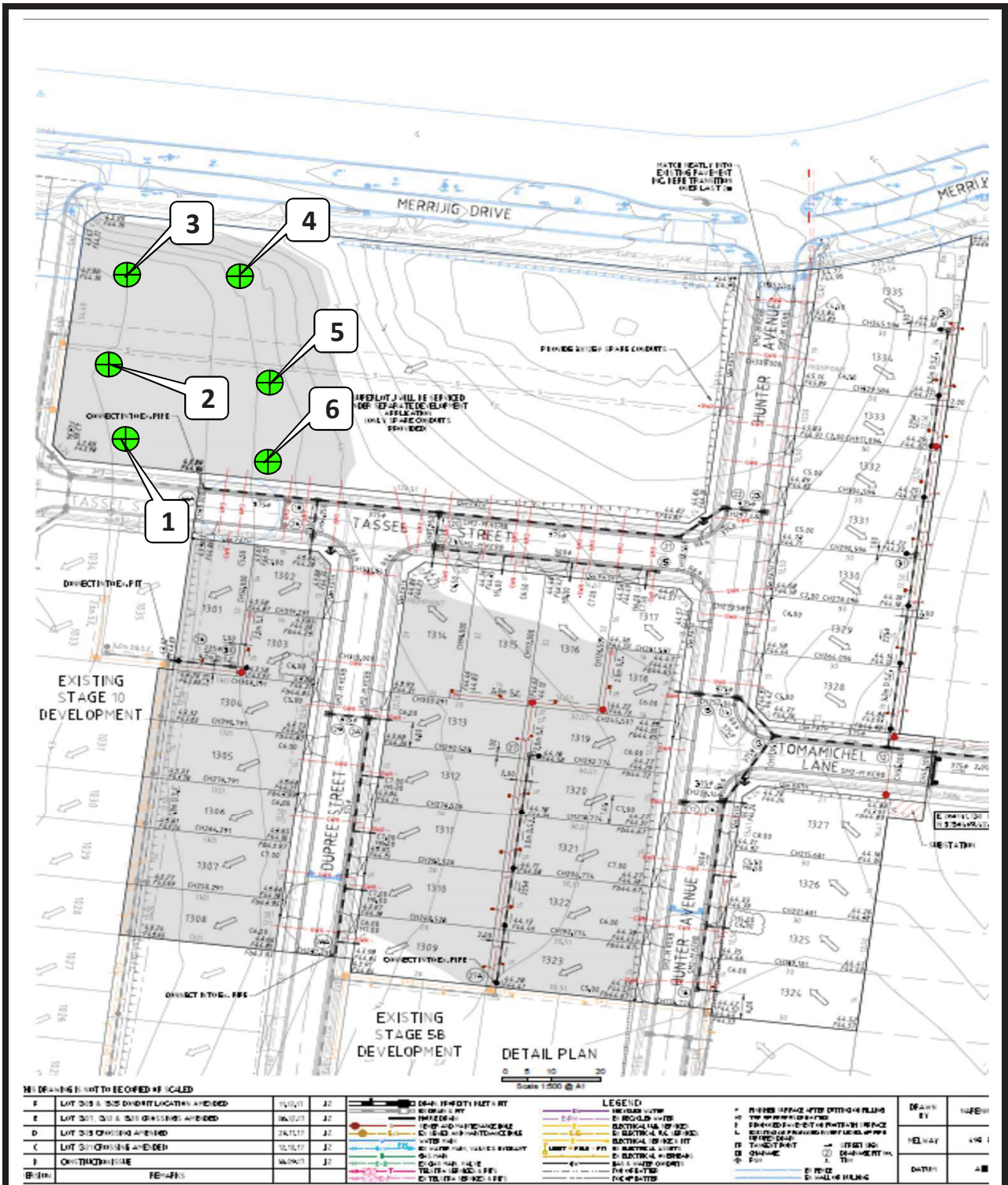


*Accredited for compliance with ISO/IEC 17025 - Testing*

*NATA Accredited Laboratory Number 14561*

MICK CROWE  
(Approved Signatory)

Issue Date: 18/12/2018



**GEOTECHNICAL LABORATORIES**  
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**CLIENT:** DRAPERS  
**LOCATION:** The Quay 2 Estate Stage 13  
**Sketch indicating compaction test locations**

<b>DATE:</b> 14/12/18	<b>JOB No.:</b> 1916/341
<b>OPERATOR:</b> TM	<b>CHECKED:</b> EG
<b>SCALE:</b> NTS	<b>FIGURE No.:</b> -